



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,433	06/29/2001	Ramesh Pendakur	42390P11604	8953

7590 12/08/2006

BLAKELY, SOKOLOFF,
TAYLOR & ZAFMAN LLP
Seventh Floor
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026

EXAMINER

BAKER, STEPHEN M

ART UNIT PAPER NUMBER

2133

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/895,433	Applicant(s) PENDAKUR ET AL.	
	Examiner Stephen M. Baker	Art Unit 2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 68-74 and 79-102 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 68-74, 79-99, 101 and 102 is/are rejected.
- 7) ☒ Claim(s) 100 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. <u>20061005</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Drawings

1. The drawings are objected to because of the objections to Fig. 7 noted in paragraph 3 of this Office action.
2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

Fig. 7, most notably step 760 and the specification's discussion thereof (p. 22+), is logically awkward, confusing, and apparently incorrect and/or inadequate. Step 760 apparently functions to form a number of "missing content" records equal to the number of identifiers in the manifest if a single received packet identifier does not match any content identifiers in the manifest, the same "missing content" record-making process apparently being repeated (770, 780, 730) for each identifier on the manifest. Iterations through step 760 thus appear to compile a list of "missing content" records comprising every content identifier in the manifest for every received packet that isn't on the manifest, all of which have nothing to do with processing of packets that are on the manifest. Apparently nothing is recorded by the Fig. 7 process if the received packet identifier matches an identifier in the manifest (730, 740).

Appropriate correction is required.

Claim Objections

4. Claims 78, 80, 83, 90, 91, 95, 96 and 101 are objected to because of the following informalities:

In claims 78, 83, 91 and 96: "over a lower bandwidth channel than the digital television data is transmitted over" is apparently an elliptical way of saying "over a lower bandwidth channel than any channel over which the digital television data was transmitted" or the like.

In claim 80: "over a different communication link than the digital television data is received" is apparently an elliptical way of saying "over a different communication link than any link over which the digital television data was received" or the like.

In claims 82, 87, 90, 95 and 101: "over a different communication link than the digital television data is transmitted over" is apparently an elliptical way of saying "over a different communication link than any link over which the digital television data was transmitted" or the like.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 68-80 and 94-98 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 68: "transmitting feedback indicating the missing content and indicating the user preference" is apparently misdescriptive and apparently should be "transmitting feedback indicating missing content responsive to the user preference" or the like, in view of the disclosure, page 15 at lines 13-17, where it states that "the content reception system 250 may apply user preferences, such as through a user profile, to control or modify the feedback." Although it apparently is possible to infer user preferences from the retransmission request feedback combined with knowledge of all packets that were

Art Unit: 2133

actually missing (including those not requested for retransmission), there is no means disclosed for accomplishing such an inference.

In claim 69: "the (transmitted) user preference indicates a priority for re-transmission of the missing content" is apparently misdescriptive, for the same reason as noted above regarding claim 68.

In claim 70: "the (transmitted) user preference prioritizes re-transmission of the missing content based on content type" is apparently misdescriptive, for the same reason as noted above.

In claim 94: "user preferences indicated in the feedback" is apparently misdescriptive, for the same reason as noted above regarding claim 68.

Allowable Subject Matter

7. Claim 100 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The indicated allowability of claims 68-72 and 74 is withdrawn in view of the newly discovered references to Alessi and Fukushima. Rejections based on the newly cited references follow.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2133

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 81-93, 99, 101 and 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,587,985 to Fukushima *et al* (hereafter "Fukushima").

Fukushima discloses arrangements for reliably transmitting video packets over the Internet, with a path that includes a broadcast medium (mobile radio link), from a distribution server to a receiving unit, thereby "transmitting digital television data to ... reception systems by ... broadcasting." A receiving unit sends retransmission requests back to Fukushima's distribution server, providing "feedback indicating digital television data that is missing."

In one embodiment (the fifth embodiment, as shown in Figs. 16 and 17), Fukushima's distribution server ignores retransmission requests for all but high priority packets, which are designated as high priority because the data they carry is of a "content type" that is intra-frame compressed. Such missing high priority packets are retransmitted in Fukushima's arrangement because they have a stronger effect on video reproduction quality than low-priority video data packets. Fukushima's distribution server thus accordingly operates by "determining a subset of digital television data that is indicated to be missing ... wherein said determining the subset comprises using an algorithm, and wherein the algorithm determines the subset based on how strongly quality is affected by digital television data that is missing" and "transmitting the subset."

Regarding claims 81 and 85, Fukushima does not disclose distributing the video to multiple recipients in the embodiment described above, however multicasting to multiple recipients is mentioned by Fukushima with regard to a similar embodiment (the fourth embodiment, as shown in Fig. 15). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Fukushima's above-cited video transmission arrangements as an arrangement for multicasting the video to multiple recipients. Such an implementation would have been obvious because the usefulness of sending video to multiple recipients simultaneously was already well known at the time the invention was made, as evidenced by Fukushima's fourth embodiment (as shown in Fig. 15).

Regarding claims 99 and 102, Fukushima does not disclose implementing the retransmission protocol logical processing by means of software. Official Notice is taken that the usefulness of implementing transmission protocols by means of software was well known at the time the invention was made. Such an implementation would have been obvious because the usefulness of implementing transmission protocols by means of software was already well known.

Regarding claims 86 and 88, as the effects of missing intra-frame compressed video are propagated over multiple frames, such frames have a longer "run length" than other frames.

Regarding claims 89 and 93, assuring retransmission of intra-frame compressed video serves to provide a "guaranteed level of quality."

Regarding claims 82-84, 87, 90-92 and 101, although Fukushima's arrangements use a mobile radio link, Fukushima does not specifically mention retransmitting over a different link than used for the original transmission. Official Notice is taken that the usefulness of changing transmission links (cell hand-off) during mobile radio transmissions was well known for mobile radio transmissions at the time the invention was made, as were mobile radio channels with lower bandwidths for weaker links, and "constantly running low bandwidth" mobile radio channels. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to implement Fukushima's arrangements using retransmission channels in accordance with claims 82-84, 87, 90-92 and 101. Such implementations would have been obvious because the usefulness of the usefulness of changing transmission links (cell hand-off) during mobile radio transmissions was already well known for mobile radio transmissions at the time the invention was made, as were mobile radio channels with lower bandwidths for weaker links, and "constantly running low bandwidth" mobile radio channels.

11. . Claims 81-93, 99, 101 and 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,838,668 to Okada *et al* (hereafter "Okada '668").

Okada '668 discloses arrangements for reliable satellite broadcasting to multiple recipients over a satellite link, wherein data with the highest priority is a "subset" of all retransmission-requested data selected for retransmission by the server.

Okada '668 does not specify that the data can include video data. Official Notice is taken that it was well known at the time the invention was made to use a digital

Art Unit: 2133

broadcast satellite system to transmit video data, and that it was well known at the time the invention was made to assign highest priority to video packets having the strongest effect on video quality, such as intra-frame-compressed data. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to apply the satellite broadcast arrangements disclosed by Okada '668 to broadcasting of video data packets, wherein the highest priority is assigned to video data packets having the strongest effect on video quality, such as intra-frame-compressed data. Such an application would have been obvious because the usefulness of a digital broadcast satellite system in transmitting video data, as well as assigning highest priority to video packets having the strongest effect on video quality, were both already well known.

Regarding claims 86 and 88, as the effects of missing intra-frame compressed video are propagated over multiple frames, such frames have a longer "run length" than other frames.

Regarding claims 89 and 93, assuring retransmission of intra-frame compressed video serves to provide a "guaranteed level of quality."

12. Claims 82-84, 87, 90-92 and 101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada '668 in view of U.S. Patent No. 6,484,028 to Okada *et al* (hereafter "Okada '028").

Okada '668 does not specify using a slower "constantly-running" channel for retransmissions. Okada '028 discloses that it is useful in a satellite broadcast arrangement to send retransmissions over a terrestrial link with lower bandwidth, such

Art Unit: 2133

as a telephone line, providing a slower constantly-running channel. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate to satellite broadcast retransmission arrangements disclosed by Okada '028 into the satellite broadcast arrangements disclosed by Okada '668. Such a combination would have been obvious because Okada '028 discloses that it is useful in a satellite broadcast arrangement.

13. Claims 68-71, 74, 79, 94, 97 and 98 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 7,058,027 to Alessi (hereafter "Alessi") in view of Fukushima.

Alessi discloses arrangements for reliably transmitting content, including video ("digital television data"), to set-top boxes in an ATM network that may include a wireless link (column 9, lines 45-67) including a satellite link. During connection setup, the user may signal various QoS parameters (column 2, lines 49+), one of which apparently determines whether content is treated as quality-critical and thus whether the content will be retransmitted if missed by the receiver (column 7, lines 46+). A content receiver determines that "content is missing" when it is determined that a packet is missing, and transmits "feedback"

The examples of video data mentioned by Alessi are described as being time-critical rather than quality-critical, while computer files are described as being quality-critical rather than time-critical. Alessi does not disclose transmitting video data ("digital television data") as a computer file.

Fukushima mentions in his discussion of the background of the invention (column 1, lines 20-24) that transmitting a certain amount of video data as a computer file was well known at the time the invention was made. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to transmit video data as a computer file, and hence as quality-critical data packets using a retransmission request protocol, using the communication arrangements disclosed by Alessi. Such an application would have been obvious because the usefulness of transmitting video data as a computer file was already well known, as mentioned by Fukushima.

Regarding claims 69, 70 and 98, Alessi's arrangements adjust bandwidth based on priority representative of content type.

Regarding claim 71, the video data transmitted by Alessi's arrangements provides "movie" data.

Regarding claims 74 and 97, Alessi's wireless link can be considered to be a "constantly running low bandwidth channel."

14. Claims 72, 80, 95 and 96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alessi in view of Fukushima, as applied to claim 68, above, and further in view of U.S. Patent No. 6,484,028 to Okada *et al* (hereafter "Okada").

Alessi does not disclose sending retransmissions over a different channel that has a lower bandwidth. Okada discloses arrangements for transmitting files over a satellite link. Okada further discloses sending retransmissions over a different channel that has a lower bandwidth to provide the advantage of conserving bandwidth on the satellite channel. It would have been obvious to a person having ordinary skill in the art

Art Unit: 2133

at the time the invention was made to incorporate Okada's use of a lower-bandwidth channel for re-transmissions into Alessi's re-transmission arrangements. Such incorporation would have been obvious because Okada's use of a lower-bandwidth channel for re-transmissions provides the advantage of conserving bandwidth on the satellite channel.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (571) 272-3814. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2133

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stephen M. Baker
Primary Examiner
Art Unit 2133



smb